

## AMENDMENTS TO THE CLAIMS

1-30. (Canceled)

31. (Previously presented) A method of locating an item in a facility, the method comprising:
- positioning a number of room transmitters in multiple areas within a facility;
  - configuring each room transmitter to generate a unique, modulated signature;
  - wherein configuring each room transmitter includes configuring a first room transmitter to send a time varying signal that varies between a first frequency and a second frequency and configuring a second room transmitter to send a time varying signal that varies between a third frequency and a fourth frequency during the same time that the first transmitter sends its time varying signal;
  - wherein configuring each room transmitter includes synchronizing the room transmitters within a room so that each room transmitter sends a unique, time dependent signal;
  - fitting one or more items with a location tag, at least one of the items operable to acquire physiologic data from a patient associated with the item;
  - configuring each location tag to regularly generate a signal having information regarding the identity of the location tag, the physiologic data, and the signature of any room transmitter within a reception range of the respective tag;
  - positioning at least one locating receiver within the facility;
  - determining the likely location and identity of the location tag based on the signal of the location tag; and
  - wherein determining the likely location includes determining the location of the location tag based on the offset of the time varying signals from the first and second room transmitters.

32-42. (Canceled)

43. (Previously presented) A method of locating an item in a facility, the method comprising:

- positioning a number of room transmitters in multiple areas within a facility;
- configuring each room transmitter to generate a unique, modulated signature;
- wherein configuring each room transmitter includes configuring a first room transmitter to send a time varying signal that varies between a first frequency and a second frequency and configuring a second room transmitter to send a time varying signal that varies between a third frequency and a fourth frequency during the same time that the first transmitter sends its time varying signal;
- fitting one or more items with a location tag, at least one of the items operable to acquire physiologic data;
- distributing the tagged items throughout the facility;
- configuring each location tag to have an identity, to regularly transmit its identity and the physiologic data, and to regularly retransmit the signature or a representation of the signature of any room transmitter within a reception range of the respective tag;
- positioning at least one locating receiver within the facility;
- determining the likely location and identity of at least one of the location tags based on transmissions from that location tag received by the locating receiver; and
- wherein determining the likely location includes determining the location of one of the location tags based on the offset of the time varying signal from the first and second room transmitters.

44-53. (Canceled)

54. (Previously presented) A method of locating an item in a facility, the method comprising:  
positioning a number of room transmitters within a facility;  
synchronizing the room transmitters within an area of the facility so that each room transmitter generates a unique, time dependent signal wherein a first room transmitter is configured to send its unique, time dependent signal which varies between a first frequency and a second frequency and wherein a second room transmitter is configured to send its unique, time dependent signal which varies between a third frequency and a fourth frequency during the same time that the first transmitter sends its time dependent signal;  
fitting one or more items with a location tag;  
distributing the tagged items throughout the facility;  
configuring each location tag to have an identity, to transmit its identity, and to retransmit the unique, time dependent signal of any room transmitter within a reception range of the respective location tag;  
positioning at least one location receiver within the facility, the location receiver operable to receive the unique, time dependent signals from the location tag; and  
determining the location and identity of at least one of the location tags based on the offset of the time dependent signals from the first and second room transmitters.
55. (New) A method as claimed in claim 31, further comprising coupling a control computer to the at least one locating receiver and generating an output indicative of the location and identity of the location tag.
56. (New) A method as claimed in claim 31, further comprising configuring each room transmitter with a secondary receiver.
57. (New) A method as claimed in claim 56, further comprising sending a signal from at least one locating receiver to each room transmitter.

58. (New) A method as claimed in claim 57, further comprising  
sending a synchronization code to each room transmitter that causes each room transmitter to transmit its respective signature signal at a known time; and  
determining the location of a location tag based on the time that the location tag receives signature signals from the room transmitters.
59. (New) A method as claimed in claim 31, further comprising configuring each room transmitter with a PLC circuit.
60. (New) A method as claimed in claim 31, further comprising positioning a reference tag in a location within the facility.
61. (New) A method as claimed in claim 60, further comprising configuring the reference tag to transmit a reference signal on a periodic basis.
62. (New) A method as claimed in claim 31, further comprising configuring each room transmitter to listen for signals from other room transmitters.
63. (New) A method as claimed in claim 43, further comprising generating an output indicative of the location and identity of the location tag.
64. (New) A method as claimed in claim 43, further comprising synchronizing the room transmitters within an area within the facility so that each room transmitter sends a unique, time dependent signal.
65. (New) A method as claimed in claim 43, further comprising configuring each room transmitter with a secondary receiver.
66. (New) A method as claimed in claim 65, further comprising sending a signal from at least one locating receiver to each room transmitter.

67. (New) A method as claimed in claim 66, further comprising  
sending a synchronization code to each room transmitter that causes each room  
transmitter to transmit its respective signature signal at a known time; and  
determining the location of a location tag based on the time that the location tag receives  
the signature signals from the room transmitters.
68. (New) A method as claimed in claim 43, further comprising configuring each room  
transmitter with a PLC circuit.
69. (New) A method as claimed in claim 43, further comprising positioning a reference tag  
in a location within the facility.
70. (New) A method as claimed in claim 69, further comprising configuring the reference  
tag to transmit a reference signal on a periodic basis.
71. (New) A method as claimed in claim 70, further comprising configuring each room  
transmitter to listen for signals from other room transmitters.

72. (New) A location system for determining the location of a telemetry device in a facility, the location system comprising:

a plurality of room transmitters capable of being located throughout the facility, each room transmitter having a unique, modulated signature;

at least one location receiver;

at least one telemetry device operable to acquire physiologic data, the telemetry device including

an identification module operable to store an identity of the telemetry device,

a receiver operable to receive the signatures of the room transmitters,

a switch operable to link the physiologic data to the receiver and the identification module,

a processor operable to combine the physiologic data, the identity, and the signature into a signal, and

a transmitter to regularly send the signal directly to the location receiver wherein the location receiver is operable to determine the identity of the telemetry device and the likely location of the telemetry device within the facility.

73. (New) A system as claimed in claim 72, further comprising a control computer coupled to the at least one location receiver and operable to generate an output indicative of the location of the at least one telemetry device.

74. (New) A system as claimed in claim 72, further comprising at least two telemetry devices.

75. (New) A system as claimed in claim 72, further comprising at least two location receivers.

76. (New) A system as claimed in claim 72, wherein each of the plurality of room transmitters includes a power supply, a control circuit, a tone generator, and a transducer.

77. (New) A system as claimed in claim 76, wherein the at least one telemetry device includes a transducer, an identification module, a power supply, and a control circuit coupled to the transmitter.
78. (New) A system as claimed in claim 72, wherein each of the plurality of room transmitters includes a power supply, a control circuit, a pulse generator, and an infrared device.
79. (New) A system as claimed in claim 78, wherein the at least one telemetry device includes an infrared sensor, an identification module, a power supply, and a control circuit coupled to the transmitter.
80. (New) A system as claimed in claim 72, wherein the location receiver includes a signal receiver, an identity decoder, and a signature analyzer, the identity decoder and signature analyzer each coupled to the signal receiver.
81. (New) A system as claimed in claim 72, wherein one or more of the plurality of room transmitters includes a housing with a grill and electrical connectors configured to fit in an electrical outlet.
82. (New) A system as claimed in claim 72, wherein one or more of the plurality of room transmitters includes a face plate with a grill and is designed to fit within the recess of an electrical outlet.
83. (New) A system as claimed in claim 72, wherein one or more of the plurality of room transmitters includes a housing with a window and electrical connectors configured to fit in an electrical outlet.
84. (New) A system as claimed in claim 72, wherein one or more of the plurality of room transmitters includes a face plate with a window and is designed to fit within the recess of an electrical outlet.

85. (New) A system as claimed in claim 72, wherein each of the plurality of room transmitters includes a PLC circuit.
86. (New) A system as claimed in claim 72, wherein two or more of the plurality of room transmitters include a secondary receiver.
87. (New) A system as claimed in claim 86, wherein each secondary receiver is an RF receiver.
88. (New) A system as claimed in claim 86, wherein each secondary receiver is an ultrasonic receiver.



89. (New) A location system for determining the location of a portable device in a facility, the location system comprising:

- a plurality of room transmitters capable of being located throughout the facility, each room transmitter having a power supply, a control circuit, a transmitter driver, and a transmitter, the control circuit and transmitter driver operable to generate a unique, modulated signature for each room transmitter;

- a portable device operable to acquire physiologic data, the portable device including
  - an identification module operable to store an identity of the portable device,
  - a receiver operable to receive the signatures of the room transmitters,
  - a switch operable to link the physiologic data to the receiver and the identification module,

- a power supply,

- a transmitter operable to send a signal having information related to the signature of a room transmitter within the reception range of the portable device, the physiologic data, and information related to the identity of the portable device, and

- a control circuit coupled to the transmitter; and

- at least one locating receiver operable to receive the signal of the portable device, the at least one locating receiver having an identity decoder, and a signature analyzer, the at least one locating receiver operable to determine the identity of the portable device and the likely location of the portable device within the facility.

90. (New) A system as claimed in claim 89, wherein one or more of the plurality of room transmitters includes a housing with a grill and electrical connectors configured to fit in an electrical outlet.

91. (New) A system as claimed in claim 89, wherein one or more of the plurality of room transmitters includes a face plate with a grill and is designed to fit within the recess of an electrical outlet.

92. (New) A system as claimed in claim 89, wherein one or more of the plurality of room transmitters includes a housing with a window and electrical connectors configured to fit in an electrical outlet.

93. (New) A system as claimed in claim 89, wherein one or more of the plurality of room transmitters includes a face plate with a window and is designed to fit within the recess of an electrical outlet.

94. (New) A system as claimed in claim 89, wherein each of the plurality of room transmitters includes a PLC circuit.

95. (New) A system as claimed in claim 89, wherein two or more of the plurality of room transmitters includes a secondary receiver.

96. (New) A system as claimed in claim 95, wherein each secondary receiver is an RF receiver.

97. (New) A system as claimed in claim 95, wherein each secondary receiver is an ultrasonic receiver.

98. (New) A method of locating an item in a facility, the method comprising:  
positioning a number of room transmitters in multiple areas within a facility;  
positioning at least one location receiver within the facility;  
configuring each room transmitter to generate a unique, modulated signature;  
fitting one or more items with a location tag, at least one of the items operable to acquire physiologic data from a patient associated with the item, the location tag having an identity;  
linking the physiologic data, the signature, and the identity to a switch;  
combining the physiologic data, the signature, and the identity to generate a signal;  
configuring each location tag to transmit the signal to the location receiver; and  
determining the likely location and identity of the location tag based on the signal from the location tag.
99. (New) A method as claimed in claim 98, further comprising coupling a control computer to the at least one location receiver and generating an output indicative of the location and identity of the location tag.
100. (New) A method as claimed in claim 98, further comprising synchronizing the room transmitters within a room so that each room transmitter sends a unique, time dependent signal.
101. (New) A method as claimed in claim 100, further comprising configuring a first room transmitter to send a time varying signal that varies between a first frequency and a second frequency and configuring a second room transmitter to send a time varying signal that varies between a third frequency and a fourth frequency during the same time that the first transmitter sends its time varying signal.
102. (New) A method as claimed in claim 98, further comprising configuring each room transmitter with a secondary receiver.
103. (New) A method as claimed in claim 102, further comprising sending a signal from at least one locating receiver to each room transmitter.

104. (New) A method as claimed in claim 103, further comprising  
sending a synchronization code to each room transmitter that causes each room  
transmitter to transmit its respective signature signal at a known time; and  
determining the location of a location tag based on the time that the location tag receives  
signature signals from the room transmitters.
105. (New) A method as claimed in claim 98, further comprising configuring each room  
transmitter with a PLC circuit.
106. (New) A method as claimed in claim 98, further comprising positioning a reference tag  
in a location within the facility.
107. (New) A method as claimed in claim 106, further comprising configuring the reference  
tag to transmit a reference signal on a periodic basis.
108. (New) A method as claimed in claim 98, further comprising configuring each room  
transmitter to listen for signals from other room transmitters.

109. (New) A location system for determining the location of a patient in a facility, the location system comprising:

- a plurality of room transmitters capable of being located throughout the facility, each room transmitter having a unique, modulated signature;

- at least one tag operable to be associated with an item, the item operable to acquire patient data, the at least one tag including

  - an identification module operable to store an identity of the tag,

  - a receiver operable to receive the signatures of the room transmitters,

  - a switch operable to link the patient data to the receiver and the identification module, and

  - a transmitter to send a signal having information related to the signature of a room transmitter within the reception range of the tag, the patient data, and information related to the identity of the tag; and

- at least one location receiver operable to receive the signal of the at least one tag and to determine the identity of the tag and the likely location of the patient within the facility.

110. (New) A system as claimed in claim 109, wherein the at least one tag is incorporated in a telemetry device.

111. (New) A system as claimed in claim 110, wherein the telemetry device includes

- at least one signal conditioner to condition a telemetry input;
- a filter and mixer coupled to the receiver of the tag; and
- a multi-channel combiner coupled to the transmitter of the tag.